UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte SHIGERU YANO,
MINDIAW WANG and
TAROH ICHIKAWA

Appeal No. 2006-1673
Application No. 09/913,725

HEARD: September 14, 2005

Before KIMLIN, KRATZ and JEFFREY T. SMITH, Administrative Patent Judges.

KRATZ, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1, 2, and 5-7. Claims 8 and 9, which are the only other claims that remain pending in this application, are withdrawn from further consideration by the examiner as drawn to a non-elected invention. We have jurisdiction pursuant to 35 U.S.C. § 134.

BACKGROUND

Appellants' invention relates to a molded porous film that is made using a composition including: (1) 45-75 weight percent of a polyolefin-containing resin that comprises 70-98 weight

percent linear low density polyethylene and 2-30 weight percent branched low density polyethylene; (2) 25-55 weight percent of inorganic filler; and (3) 0.5 to 5 parts by weight of liquid ethylene α-olefin oligomer per 100 parts by weight of the composition. Exemplary claim 1 is reproduced below.

> A porous film molded from a composition comprising 25 to 55% by weight of polyolefinic resin and 75 to 45% by weight of inorganic filler, in which the polyolefinic resin comprises 98 to 70% by weight of linear low density polyethylene and 2 to 30% by weight of branched low density polyethylene, and wherein the composition further comprises 0.5 to 5 parts by weight of liquid ethylene-a-olefin oligomer based on 100 parts by weight of the composition, the porous film having a moisture permeability from 1500 to 4000 g/m²·24hr. and a uniformness of thickness of 0.15 or less.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Takayama	6,284,828	Sep. 04, 2001

Yano et al. (Yano), Japanese Patent Publication No. 11-158305, published June 15, 1999.[1]

Claims 1, 2, and 5-7 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Takayama in view of Yano (JP 11-158305).

We refer to the brief and reply briefs and to the answers for a complete exposition of the opposing viewpoints expressed by

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[1] Our references to Yano in this decision are to the English language translation by Thomson (of record).

appellants and the examiner concerning the issues before us on this appeal.

OPINION

Having considered the record of this application, including the arguments advanced by both the examiner and appellants in support of their respective positions, we find ourselves in agreement with appellants' position in that the examiner has not met the burden to show, prima facie, that the applied prior art renders the subject mater of the rejected claims obvious within the meaning of 35 U.S.C. § 103(a). Accordingly, we reverse the rejection advanced by the examiner. Our reasoning follows.

Like appellants, Yano is directed to a porous film made from a composition including a resin comprising a low density polyethylene and a branched low density polyethylene together with inorganic filler according to appellants and the examiner.[2]

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[2] The Thomas translation of Yano is a machine-assisted translation and does not appear to be a verified translation, not withstanding the examiner's statement at page 3 of the answer to the contrary. While the Thomas translation does not fully comply with the standards for a translation that we requested in our Remand (mailed September 28, 2005), we note that appellants and the examiner are in general agreement as to the teachings of Yano and the Thomas translation is sufficiently readable to substantiate that agreement. More particularly, the examiner makes it clear in both answers, including at page 3 of the latest answer (mailed November 02, 2005) that Yano does not teach a liquid ethylene-alpha-olefin oligomer component for the composition used in forming the film of Yano. Appellants have agreed with that assessment of Yano.

The examiner has determined that Yano does not teach the use of liquid ethylene-α-olefin oligomer as a composition component for making the film, as required by appellants' appealed claims. Rather, Yano employs ethylenebisstearamide, methylenebisstearamide or ethylenebisoleamide in forming a porous film of desired properties, as noted by appellants (brief, page 4) and generally acknowledged by the examiner in the answers.

Thus, the examiner turns to Takayama for a teaching of the use of a liquid ethylene-alpha-olefin oligomer in a resin composition, as a lubricant.

In the background section of the Takayama patent specification (paragraph bridging columns 1 and 2), Takayama explains that:

> the addition of a lubricant has various disadvantages, such as the trouble of the processing in extrusion or molding, or the bleeding during using. Moreover, when used together with the above-mentioned resins other than the polyacetal resins, the lubricant inhibits the compatibility between these resins and the polyacetal resins and greatly deteriorates the abrasion resistance properties.

Takayama incorporates a modified olefinic polymer, an alkylene glycol polymer containing a primary or secondary amino group, and an inorganic filler and, an optional lubricant as additional components into the polyacetal resin-containing composition. According to Takayama, the optional lubricant

enhances desired properties of their polyacetal resin composition, including sliding performance and molding process capabilities. The polyacetal resin composition is disclosed as having good friction and abrasion resistance properties useful in automobiles and electrical and electronic appliances. See, e.g., the abstract, column 1, lines 8-15, column 2, lines 10-35, and column 5, line 23 through column 5, line 41 of Takayama. Takayama provides a list of suitable lubricants for their composition, including ethylene-alpha-olefin oligomer.

The examiner (answer, pages 3 and 4) maintains that:

> it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the ethylene-alpha-olefin oligomer singly or in combination with the ethylenebisstearamide disclosed in JP'305 motivated by the desire to obtain the porous film with improved dispersibility and processability and thereby facilitating the preparation of the film. This is important to the expectation of successfully practicing the invention of JP'305 and this suggesting the modification.

The examiner (answer, page 5) further argues that:

> [t]he lubricants in Takayama are designed not only to improve [of, sic] friction and abrasion resistance of molded polyacetal resin compositions as argued by Appellants but also to improve the dispersibility, molding processabilities of the composition (abstract, column 5, line 28). This is exactly the solution to problems with which the JP'305 reference is concerned. Takayama teaches a polyacetal resin composition comprising a polyacetal resin, a polyolefin resin, an inorganic filler and a lubricant that includes a liquid ethylene-alpha-olefin oligomer and ethylenebissteramide in the amount of 0.5 to 5 parts by weight based on 100

> parts by weight of the resin composition (abstract). The lubricant is used for improved dispersibility and processability of the composition (abstract, column 5, lines 31-35, column 8, lines 10-15). This demonstrates that this lubricant is functional in compositions containing polyolefins. Given that JP'305 employs a lubricant, substitution of an improved variety does not seem impractical. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the ethylene-alpha-olefin oligomer singly or in combination with the ethylenebissteramide disclosed in JP'305 motivated by the desire to obtain the porous film with improved dispersibility and processability and thereby facilitating the preparation of the film.

However, Takayama is not directed to a porous film, as is Yano (JP '305) and appellants. Rather, Takayama is directed to a particular polyacetal resin composition including a number of required components that has good friction and abrasion resistance properties useful in automobiles and electrical and electronic appliances, as noted above. Here, the examiner simply has not made the case that the various lubricants, particularly the ethylene-alpha-olefin oligomer, among those disclosed as an alternative for Takayama's specific composition, would have been recognized by one of ordinary skill in the art as being useful as a component in the disparate porous film molding composition of Yano. While the examiner asserts that the addition of a liquid ethylene-alpha-olefin oligomer to the porous film composition of Yano would be expected to improve the dispersibility and process-ability of the molding composition of Yano, that assertion is not

backed up with adequate evidence or scientific reasoning to substantiate that argued suggestion, with a reasonable expectation of success in so doing, for the different porous molding composition used by Yano. In this regard, the examiner has not fairly established how Takayama would have suggested the applicability (with a reasonable expectation of success) of the lubricant compositions disclosed therein for a porous resin composition, like or similar to that disclosed by Yano, given the differences between the molding composition of Takayama and the molding composition taught by Yano.

In particular, appellants note that the lubricant (component (E) of Takayama is disclosed as being useful when the resin includes components (A)-(D), described at columns 2-5 of Takayama. Otherwise, compatibility issues and other problems, such as with the desired abrasion resistance, arise. See, e.g., pages 2-4 of the reply brief filed October 22, 2004 and pages 3 and 4 of the reply brief filed January 03, 2006 together with the corresponding disclosure of Takayama.[3]

The examiner's discussion about the polyolefin component of the resin composition of Takayama at page 6 of the answer has

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[3] We note that the examiner did not specifically respond to the arguments furnished in either of appellants' reply briefs. Indeed, we specifically advised the examiner to address the arguments in appellants' reply brief filed October 22, 2004 at page 4 of our Remand mailed September 28, 2005.

been considered. However, as appellants explain in the reply briefs, the specific polyolefin used by Takayama is a chemically modified polyolefin, not the polyolefin employed by Yano. Moreover, as noted above, Takayama requires other components in the resin composition besides the modified polyolefin for use with the lubricants disclosed therein. Against that backdrop, the examiner's attempt at suggesting that the polyolefin component represents a significant commonality between the resin compositions of Yano and Takayama that would have led one of ordinary skill in the art to use one of the alternative lubricants disclosed by Takayama in the dissimilar composition of Yano is unpersuasive, on this record.

The record before us does not support a conclusion that the examiner has met the burden of presenting a prima facie case of obviousness. It follows that we do not sustain the examiner's § 103(a) rejection on this record.

CONCLUSION

The decision of the examiner to reject claims 1, 2, and 5-7 under 35 U.S.C. § 103(a) as being unpatentable over Takayama in view of Yano (JP 11-158305) is reversed.

REVERSED

EDWARD C. KIMLIN)
Administrative Patent Judge)
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PETER F. KRATZ) BOARD OF PATENT
Administrative Patent Judge) APPEALS
) AND
) INTERFERENCES
)
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